

POWTS soil saturation submittal time extended

by Leroy G. Jansky, POWTS
Wastewater Specialist, Chippewa Falls

There will be an extension of the time period for submitting soil saturation determinations under Comm 85.60(3)(I)1 (observation pipe method). The determinations are supposed to be submitted within 60-days of the completion of observations.

Requests for review of information from sites where the last observations were made on May 31, 2001 should have been submitted for review by July 30. The period is now extended to December 31, 2001.

The submittal requirements for soil saturation determinations are new this year. Back in March, the

Safety and Buildings Division implemented a grace period for submittal of the intent to monitor notice that is required by Comm 85.60(3)(b)1 because many certified soil testers were unaware of the new requirement.

continued on page 5

New sources of plumbing info

In WPCR and on the Internet

by Lynita Docken, S&B Plumbing Program Manager,
608-785-9349, ldocken@commerce.state.wi.us

The S&B Plumbing Plan Reviewers and Plumbing Consultants get together with a few other S&B staff for a monthly teleconference to talk over nuts and bolts technical issues. Conclusions from the discussions have been put into a plumbing database in order to back-up memories and help improve consistency.

The information in that database recently has been put on the S&B WebSite, linked from the Plumbing Program page, <http://www.commerce.state.wi.us/>

SB/SB-
PlumbingProgram.html.
The information there will be added to and maintained on a regular basis.

I'm planning to share in the WPCR some of the points

continued on page 10



Heads up!
Plumbing con ed
info next month.
See page 4

Inside this WPCR

POWTS manuals corrections	page 3
Plumbing seminar	page 3
Black River is exams location	page 5
Personnel News	page 5
Orenco Advan Tex tanks	page 6
Special contact info	page 9
Wastewater Specialists	page 13
Venting	page 14



Wisconsin Plumbing Codes Report

Safety and Buildings Division, Department of Commerce

Volume 17 No. 9

September 2001

Sample S&B email address:
tbraun@commerce.state.wi.us

Safety and Buildings Offices

Green Bay Office
2331 San Luis Pl #150
Green Bay WI 54304
920-492-5601
Fax 920-492-5604
greenbaysch@commerce
.state.wi.us

Hayward Office
10541N Ranch Rd.
Hayward WI 54843
715-634-4870
Fax 715-634-5150
haywardsch@commerce
.state.wi.us

La Crosse Office
4003 North Kinney
Coulee Road
LaCrosse WI 54601
608-785-9334
Fax 608-785-9330
lacrossesch@commerce
.state.wi.us

Madison Office
201 W Washington Ave
PO 2658
Madison WI 53701
608-266-3151
Fax 608-267-9566
madisonsch@commerce
.state.wi.us

Shawano Office
1340 E Green Bay St #300
Shawano WI 54166
715-524-3626
Fax 715-524-3633
shawanosch@commerce
.state.wi.us

Waukesha Office
401 Pilot Ct # C
Waukesha WI 53188
262-548-8600
Fax 262-548-8614
waukeshasch@commerce
.state.wi.us

Plan Review Scheduling

For plan review scheduling for Plumbing and Buildings, call the S&B office numbers listed above, or contact the email address shown. Fax scheduling is possible, 877-840-9172. Information about the project will be needed to schedule the plan review. Any of the offices can schedule the first appropriate plan review available statewide.

Plan review for Private Onsite Wastewater Treatment Systems is provided on a first-come, first-served basis. Contact one of the offices for information.

For scheduling info, also see <http://www.commerce.state.wi.us/SB/SB-DailyDoc.html>.

Questions about your continuing education credits?

Check the mailing address back page for a printed line giving your status for plumbing-related S&B credentials. Or, call the Credentialing Unit, 608-261-8500. Or, check the S&B WebSite, <http://www.commerce.state.wi.us/SB/SB-HomePage.html>, choose "Credentials."

Plumbing Consultants

Tom Braun Stevens Point 715-345-5335
Don Hough Hayward 715-634-4804
Tim Joyce Madison 608-235-0557
Don Oremus Pelican Lake 715-487-6123
Robert Samuels Waukesha 262-548-8634
Jim Wehinger Friendship 608-339-7430
Jim Zickert Eldorado 920-872-2656

Plumbing Plan Reviewers

Herman Delfosse La Crosse 608-789-5535
Tom Devereaux Hayward 715-634-3026
Wes Grube Green Bay 920-492-5613
Chester Kintop Waukesha 262-548-8634
Dan Kraft Madison 608-266-8075
Tom Perkins Waukesha 262-521-5064
Ken Pertzborn Madison 608-267-2242
Curt Wendorff Shawano 715-526-9056

Plumbing Products Reviewers

Mike Beckwith Madison 608-266-6742
Lee Finley Madison 608-266-2128
Glen Schlueter Madison 608-267-1401

POWTS Plan Reviewers

Charles Bratz La Crosse 608-789-7893
Tom Devereaux Hayward 715-634-3026
Wes Grube Green Bay 920-492-5613
Julia Lewis Waukesha 262-548-8638
Robert Kanter Madison 608-261-7735
Pete Pagel Madison 608-266-2889
Jim Quinlan Madison 608-266-3937
Pat Shandorf Hayward 715-634-7810
Jerry Swim La Crosse 608-789-7892
Keith Wilkinson Shawano 715-524-3630

POWTS Wastewater Specialists

Ross Fugill Shawano 715-524-3629
Matthew Janzen Stevens Point 715-345-5336
Leroy Jansky Chippewa Falls 715-726-2544
Carl Lippert Hayward 715-634-3484
Karl Schultz Oshkosh 920-424-3311
Dennis Sorenson La Crosse 608-785-9336
Duane Steiner West Baraboo 608-355-3159
Allen Wendorf Madison 608-873-5476

Public Swimming Pool Reviewer

Glen Jones Madison 608-267-5265

The WPCR is a monthly publication delivered to about 9,900 people as part of their certification, license, or registration with the Wisconsin Department of Commerce, Safety and Buildings Division. Subscriptions are also available. SBD 8340P

The Department of Commerce does not discriminate on the basis of disability in the provision of services or in employment. If you need this printed material interpreted or in a different form, or if you need assistance in using this service, please contact us, 608-266-3151, TTY 608-264-8777.

POWTS component design manuals have a few corrections

One of the innovations included in the July 2000 remaking of Comm 83, the Private Onsite Wastewater Treatments Systems code, is the use of component design manuals.

Specifications for nine particular POWTS systems have been approved by the Safety and Buildings Division in the form of component manuals that provide package designs that have been reviewed and identified as code compliant.

A set of the nine manuals was released in June of 1999 and three more manuals were released in January of 2001. The January 2001 set of component manuals are updates of three 1999 manuals - Mound, In-Ground Soil Absorption, and Pressure Distribution. Both the 1999 and 2001 versions may be used to design POWTS; the 2001 version resulted from additional thinking and discussion of the systems.

There are now a few corrections to the two different Pressure Distribution Component

Manuals. The corrected pages have been provided to the state Document Sales Unit, which sells the manuals. However, some manual users may have purchased copies before the corrections were made.

There is one corrected page of the 1999 Pressure Distribution Manual - Table 6, Friction Loss in Plastic Pipe (22 of 30).

There are three corrected pages of the 2001 version. Those pages contain Table 1 Flows and Loads (3 of 30), Graph 3 Minimum Lateral Diameter... (14 of 30), and Graph 4 Minimum Lateral Diameter... (15 of 30).

The corrected pages may be viewed and downloaded/printed from the Safety and Buildings Division WebSite, <http://www.commerce.state.wi.us/SB/SB-DivPublications.html>, in the component manuals section.

For more information, contact Mike Beckwith, S&B Plumbing Product Reviewer, mbeckwith@commerce.state.wi.us, 608-266-6742.



Plumbing Seminar

For three hours continuing education for
Master/ journeymen plumbers and UDC plumbing inspectors

When:

October 24, 2001
5:00 p.m.—8:30 p.m.

Where:

The West Side Club
3706 Junction Road
Madison, Wisconsin
(behind West Side Menards)

Mail To:

Harry Sulzer
Inspection Unit
P.O. Box 2984
Madison, WI 53701-2984

Registration for Plumbing Seminar Combination Waste and Vent Systems

Name _____

Address _____

Must be received by October 17.

Cost: \$30 Per Person (Includes Dinner)

Make checks payable to "City Treasurer" Confirmations **NOT** sent.
If you have questions, call Harry Sulzer @ (608) 266-4568.

Continuing Education

Watch for information in next month's *WPCR* about the December through February Safety and Buildings Division plumbing continuing education classes. Six hours of con ed credit will be available for all plumbing categories that need con ed, with exception of the POWTS Maintainer category. The focus of the courses will be codes changes. Sessions will be held in Stevens Point (Dec. 4), Eau Claire (Dec. 11), Oconomowoc (Dec. 18), Sparta (Jan. 8), Hayward (Jan. 10), Platteville (Jan. 15), Wisconsin Dells (Jan. 17), Rhinelander (Jan. 23), Green Bay (Feb. 5), and Fond du Lac (Feb. 7). A registration form will be in the *WPCR*. A registration forms that can be filled out online and printed off to be sent by mail to S&B, with the fee, will be on the division's WebSite.



S&B WebSite:

www.commerce.state.wi.us/sb

For those of you who receive the *WPCR* free because you have a particular license administered by the Safety and Buildings Division, address changes should be provided to the S&B Credential Unit, madisoncred@commerce.state.wi.us, 608-261-8500.

People with paid subscriptions, may request service and address changes from Material Orders, PO Box 2509, Madison, WI 53701. Fax 608-261-6699. Telephone 608-267-4405. Email phobbs@commerce.state.wi.us

Subscriptions are \$20, payable in advance to the Safety and Buildings Division for 12 monthly issues.

POWTS soil saturation determination submittal time extended

continued from page one

The division has found a situation similar to the monitoring information has occurred regarding the determinations. S&B decided to extend the 60-day submittal deadline to December 31, 2001. The extra time for submittal should be sufficient for any projects that have been put on the back burner to be completed and submitted. The decision to allow a time extension negates the need for a petition for variance in order to submit soil saturation results beyond the codified 60-day limit for submittal.

The standard review fee of \$100 per site will be required with each soil saturation determination

Personnel News

Tom Perkins is now a plumbing plan reviewer in the Safety and Building Division Waukesha office. Perkins has twenty two years experience in the field, having worked previously in the public sector for Portage and Kenosha county POWTS programs, and in the private sector as a POWTS installer, POWTS designer and soil tester. He is licensed as a Master Plumber Restricted, Designer of Engineering Systems, and soil tester. You may contact him by calling 262-521-5064, email tperkins@commerce.state.wi.us.



James Coach is a new boiler inspector in south-central Wisconsin. A veteran of 30 years of plant and industrial engineering, Coach's telephone number is 608-575-8753, his email is jcoach@commerce.state.wi.us.

Fokruddin Khondaker is now a commercial buildings plan reviewer in the S&B Shawano office. An experienced designer, Khondaker's telephone number is 715-524-6850, his email is fkohndaker@commerce.state.wi.us.

David Vriezen, formerly an Occupational Safety Specialist with S&B, has been chosen as Bureau of Field Operations Section Chief for the Mine Safety and Public Sector Safety Programs. His telephone number is 262-548-8602, his email is dvriezen@commerce.state.wi.us

submittal. In addition, persons submitting determination results under Comm 85.60(3) should be aware that a new Soil Saturation Determination Report form (R.06/01) was released in early June. This form may be used when submitting observation data and can be found on our web site at <http://www.commerce.state.wi.us/SB/SB-DivForms.html>, in the POWTS section. The forms are also available from local sanitary permit issuing agents or S&B's Wastewater Specialists listed on page two of the *WPCR*

Questions about reporting soil saturation determinations may be directed to the Wastewater Specialists or specifically to Leroy Jansky at 715-726-2544 or Ljansky@commerce.state.wi.us.

Black River Falls is S&B exams location

Black River Falls is a new credential exam site for Safety and Buildings Division, with sessions located at the Arrowhead Lodge, Highways 94 and 54. On a trial basis, exams will be held there on October 10, February 6 (2002), April 10, and June 5. People must register in advance. Other S&B exam sites are in Madison, Milwaukee, and Wausau, all of which have exams held each month. For more information, or to register for an exam, contact the S&B Credentialing Unit, 608-261-8500, madisoncred@commerce.state.wi.us.

S&B Bureau of Integrated Services Management Contacts

Bureau Director: Randy Baldwin, 608-267-9152
Green Bay office: Brad Johnson, 920-492-5605
Hayward Office: John Spalding, 608-789-4693
LaCrosse Office: John Spalding, 608-789-4693
Madison Office: Tom Kasper 608-267-7586
Jim Miller 608-266-8072
Mary Jacobson, 608-266-8456
Manufactured Home Unit Super., Malini
Ganeshapillai, 608-266-5333
Madison Plan Entry Superv., Joshua Schultz,
608-261-8460
Shawano Office: Steve Dobratz, 715-526-9019
Waukesha Office: Tony Rubio, 262-548-8610

Orenco's AdvanTex System tanks approved, could be used in POWTS

by Mike Beckwith, S&B
Plumbing Product
Reviewer, mbeckwith@
commerce.state.wi.us,
608-266-6742

Orenco Systems Inc. has received plumbing product approval for their AdvanTex™ Treatment system models AX10 and AX20.

The systems, consist of a fiberglass basin with lightweight textile fabric sheets hung inside. Effluent from a processing tank is sprayed on top of the fabric sheets, then the effluent is distributed to a dispersal/treatment component. Some of the effluent is also discharged into the processing tank. This system works similar to a recirculating sand filter. The fiberglass tank is designed to sit on top of the processing tank(s).

The system may be set up to function in one of four treatment flow scenarios. The scenarios are:

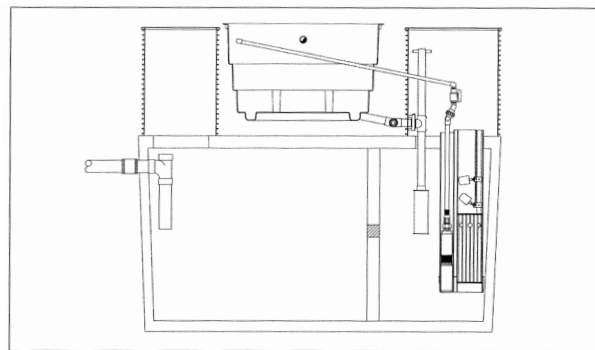
A) Mode 1, Blend Discharge – This system type recirculates the wastewater into the downstream compartment of a two-compartment processing tank

or the downstream

tank of a two-tank processing tank system, with the effluent exiting from the downstream compartment or tank to a dispersal/treatment component.

B) Mode 1, Filtrate Discharge – This system type recirculates the wastewater into the downstream compartment of a two-compartment processing tank or the downstream tank of a two-tank processing tank system, discharging the effluent exiting directly from the textile filter module to the dispersal/treatment component.

(There is no Mode 2.)



Setup for Mode 1.

C) Mode 3, Blend Discharge – This system type recirculates the wastewater into the downstream compartment of a two-compartment processing tank or the downstream tank of a two-tank processing tank system, discharging the effluent from the

Internet licensing info

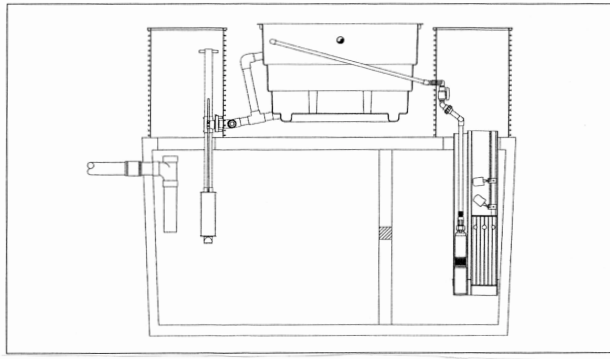
There is a state "Portal," www.wisconsin.gov, a cooperative Internet website created to serve as a first stop for electronic information from Wisconsin state government agencies.

The site is in it's infancy, however one of the first goals is to provide information on licenses and permits of various kinds, including those administered by the Safety and Buildings Division. S&B has provided info for the Portal that is not duplicated on the S&B WebSite. Check it out, go to

www.wisconsin.gov and choose "Licensing and Permitting" under "Quick Links." There is a link to the Portal from the S&B WebSite, www.commerce.state.wi.us/SB.



S&B WebSite:
www.commerce.state.wi.us/sb



Setup for Mode 3.

downstream compartment or tank of the processing tank(s) system to the dispersal/treatment component.

D) Mode 3, Filtrate Discharge - This system type recirculates the wastewater into the downstream compartment of a two-compartment processing tank or the downstream tank of a two-tank processing tank system, discharging the effluent exiting directly from the textile filter module to the dispersal/treatment component.

Mode 3 facilitates nitrogen reduction by recirculating the effluent into the first compartment of a two-compartment processing tank or the first tank of a two-tank processing tank system. The filtrate discharge portion of the process will help reduce the fecal coliform below the 1000 cfu/100 ml level. Regardless of the treatment flow scenario, the BOD₅ and TSS will be at or below 30 mg/L. Therefore, when the system is set up for filtrate discharge, the dispersal/treatment cell must include a pressurized distribution network in

accordance with Comm 83.44 (5)(b).

Since the S&B approval is only for the tank that houses the textile fabric, an effluent distribution piping, product approval must be obtained for any prefabricated processing tank serving this product.

Also, plan approval for the installation must be obtained from the Safety and Buildings Division or a designated agent. The processing tank system must consist of either a two-compartment tank or two single compartment tanks. The upstream compartment of a two compartment tank or the upstream tank of two single-compartment tanks must have a treatment capacity equal to at least two-thirds of the Design Wastewater Flow.

The downstream compartment of a two compartment tank of the downstream tank or two single-compartment tanks must have a treatment capacity equal to at least one-third of the DWF.

Depending on the number of bedrooms the system serves, there are various combinations of the AX10 and AX20 units. When more than one AX unit is required, the units must have the effluent distributed to them in a parallel flow pattern.

Systems that use this product and are to serve more than six bedrooms from a one- or two-family residence, must be submitted to S&B as individual system designs. The submittal must include design approval from Orenco Systems.

**Safety and Buildings-related codes are on the Internet,
www.commerce.state.wi.us/SB/SB-CodesListing2001.html**

Not all codes are available electronically. Paper copies may be purchased from Document Sales, 800-362-7253, for credit card purchases, or 608-266-3358.

State administrative codes and the code update service may be purchased by contacting state Document Sales, 608-266-3358, or 800-362-7253, for credit card purchases. ❖ ❖ ❖ ❖ ❖ ❖

Brochure asks public to pay attention to possible need for other permits

by Henry Kosarzycki, S&B Agent Monitor, 262-548-8615, hkosarzycki@commerce.state.wi.us

Paying attention to the variety of possible permits needed for different building projects is the theme of a brochure the Safety and Buildings Division has prepared. The brochure will be provided to municipalities to distribute free to people contacting local government departments.

The brochure is available for download from the S&B WebSite, <http://www.commerce.state.wi.us/SB/SB-DivPublications.html>, and will be printed this fall for distribution to all municipalities which ask for copies. Registration to receive copies is also on the WebSite.

Leading customers to ask the right questions is important to getting all the needed permitting steps taken. Time, money, and aggravation are at stake.

S&B repeatedly hears negative reports from people who took one step in one permitting process, but were “burned” because they didn’t know about or follow through on other steps needed. They got a zoning permit, but no building permit. They didn’t submit for plumbing plan review for a commercial project because they thought it was “just remodeling.”

Whatever the reasons for not getting the proper permits, people become disturbed with government officials when a problem is discovered in trying to complete a local or state permitting process. The new brochure is meant to help stop some of that frustration before it occurs.

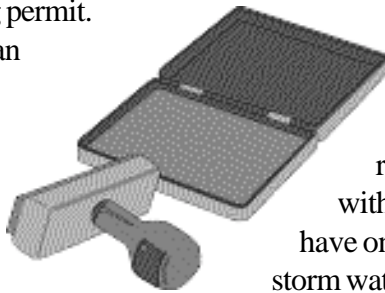
The brochure makes a number of suggestions for people who are starting building projects: Contact your local village, town or city government. Ask what permits you need locally. Ask if there are local inspectors to help figure things out. Ask what other agencies’ permits you may need. Ask what needs to be done first, then second, then third. Contact the county planning or zoning department. Ask if they

have authority over the property you have in mind. Ask if they know of any other permits or processes you need to pay attention to.

The brochure says: Even if a property has the proper zoning, projects probably also require another permit if something is erected, constructed, improved, enlarged, altered, converted, repaired, filled in, moved or demolished. The same governing body does not necessarily issue all the permits associated with a project. There are many variations as to what permits are needed; it’s in the customer’s best interest to ask about the variations.

Federal, state, regional planning, county, municipal, special district, sanitary, erosion control, flood plain, zoning, driveway and well issues are examples of the various combinations that can affect projects. Municipal officials obviously concentrate on regulated objects constructed, installed, and altered in their own community. Building construction or alteration, mechanical systems, fences, or signs are a few of these regulated objects. County and regional agents regulate and are involved with the impact those regulated objects will have on a wider environment. Erosion control, storm water management, zoning, and sanitary permits are examples of these permits. Federal and state regulatory agencies are typically associated with review and inspection duties associated with federal law or state statutory regulations. The Americans with Disabilities Act, Environmental Protection Agency regulations, and state building codes are examples of these rules and regulations.

If you have questions about the brochure, contact me, Henry Kosarzycki, as listed above, or Todd Taylor, S&B Publications Editor, 608-267-3606, ttaylor@commerce.state.wi.us. The brochure is located online at <http://www.commerce.state.wi.us/SB/SB-DivPublications.html>.



Contact Information for Safety and Buildings Services

To schedule an appointment:

- FAX: 24-hr toll-free number for appointment scheduling, 877-840-9172
- E-mail: madisonsch@commerce.state.wi.us
- Telephone: Green Bay.....920-492-5601
Hayward 715-634-4870
LaCrosse 608-785-9334
Madison 608-266-3151
Shawano 715-524-3626
Waukesha 262-548-8600



To obtain application forms:

- Call any of the offices listed above.
- On the S&B WebSite (choose "Forms" on left side of screen):
<http://www.commerce.state.wi.us/SB/SB-HomePage.html>

Info about next available review appointment:

<http://www.commerce.state.wi.us/SB/SB-DailyDoc.html>

E-mail answers to technical questions:

-Commercial buildings, Comm 50-64, 66, 69, etc. = bldgtech@commerce.state.wi.us

-Plumbing, cross connection = plbgtech@commerce.state.wi.us

-Private onsite wastewater treatment = powtstech@commerce.state.wi.us

-Fire protection systems=
fireprotech@commerce.state.wi.us

-Public swimming pools =
pooltech@commerce.state.wi.us

-Building and plumbings products =
productech@commerce.state.wi.us

-Licenses, certifications, registrations =
madisoncred@Commerce.state.wi.us

-Manufactured/mobile homes = manf-homes@commerce.state.wi.us

-One- and Two-family Dwelling Code =
udctech@commerce.state.wi.us

**Safety and Buildings-
related codes are on
the Internet,
[www.commerce.
state.wi.us/SB/SB-
CodesListing2001.html](http://www.commerce.state.wi.us/SB/SB-CodesListing2001.html)**

Not all codes are available
electronically. Paper copies may be
purchased from Document Sales, 800-
362-7253, for credit card purchases, or
608-266-3358.

Plumbing technical data source

continued from page 1

Also see page 12

from those monthly meetings, when I can, so readers can be aware of the issues addressed. Below are some of the points from the August 2001 staff discussion. By the way, S&B has a new email address for people who wish to ask technical plumbing questions and make comments, plbgtech@commerce.state.wi.us.

Sewer Offsets and Manholes

A question came up concerning the requirement for cleanouts or manholes in sewer offsets. Comm 82.35(3)(b)2.a requires that all sanitary building sewers eight inches or larger in diameter be provided with a manhole at every change in direction of 45 degrees or more. See Figure 1.

Now, what if the 45-degree change is made in small increments? Like two 1/16 bends instead of one 1/8, 1/6, or 1/4 bend? See Figure 2. The piece of pipe shown in Figure 2 could be two feet long or two hundred feet long.

It seems logical to assume that the code developers at the time this section was created must have had a reason for choosing a 45-degree change in direction. If there is a piece of pipe separating two fittings of less than 45 degrees, it's not a 45-degree change in direction. It's two changes in direction of a lesser amount.

Most of you reading this article have (at some time, out of necessity) created a 45-degree elbow from a street 1/16 bend and a regular 1/16 bend. In reality, this is creating a 45-degree bend. So, if two fittings, a street and regular, or two street bends are installed to form one fitting of 45 degrees or more, a manhole would be required. See Figure 3.

S&B WebSite:
www.commerce.state.wi.us/sb

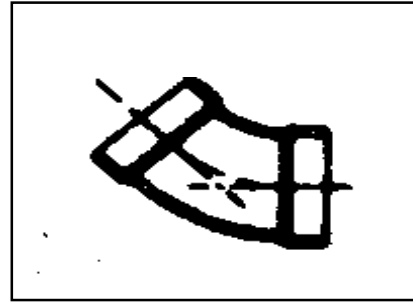


Figure 1. 45-degree change in direction.

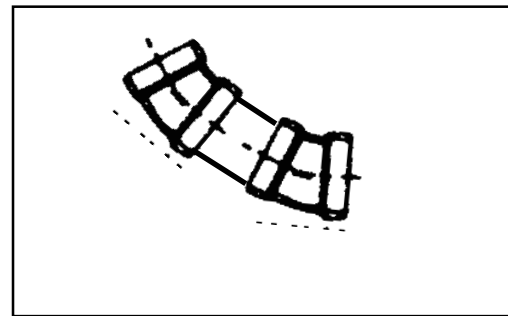


Figure 2. 2 - 22-1/2 degree changes.

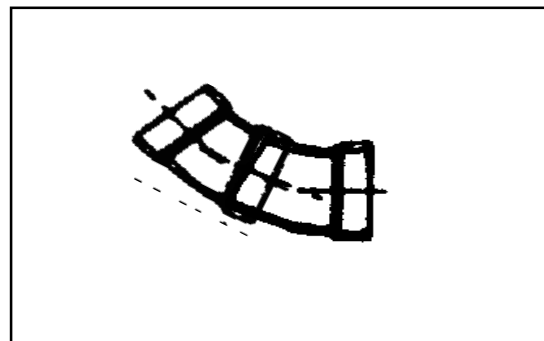


Figure 3. One 1/8 bend constructed from a street 1/16 bend and a regular 1/16 bend.

There are two other sections that contain notable requirements concerning manholes:

Comm 82.35(3)(c)2.a requires that storm sewers 12 inches or larger in diameter be provided with a manhole at every change in direction of 45 degrees or more. Storm inlets with an inside diameter of 36 inches can serve as the manhole.

Comm 82.35(3)(d)2.b addresses private interceptor main sewer access. That section states that a manhole be provided at every change in direction in private interceptor main sewers 6 inches or larger in diameter.

Figure 4 illustrates manhole installations.

Clothes Washer Standpipes

Is a residential clothes washer a wall outlet or floor outlet fixture? The dimensions shown in Figures 5 and 6 are code compliant, as found in Comm 82.33(9)(c)1.a and b.

Whether the trap is located above or below the floor, the automatic washer standpipe is a wall outlet fixture. This determination could be significant in certain venting scenarios.

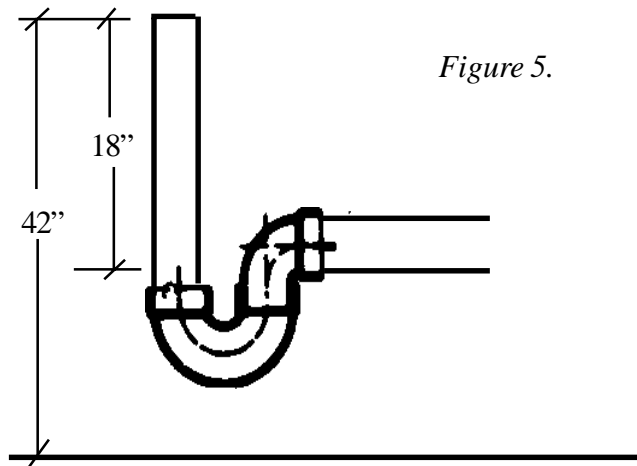


Figure 5.

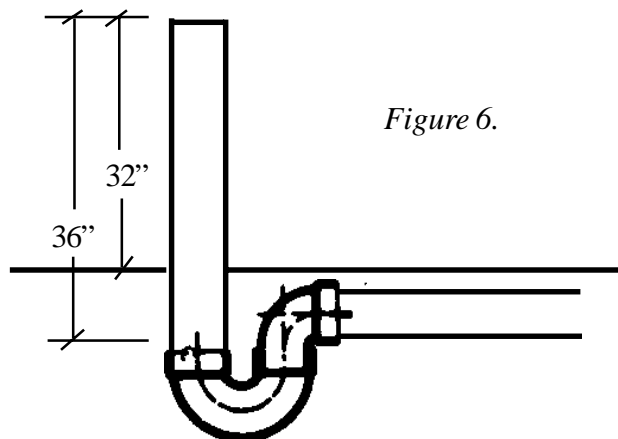
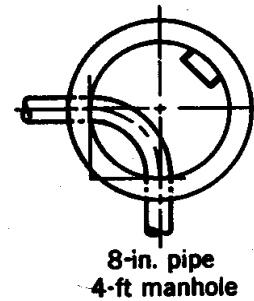
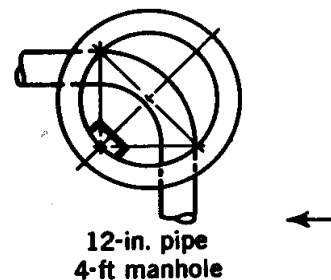


Figure 6.

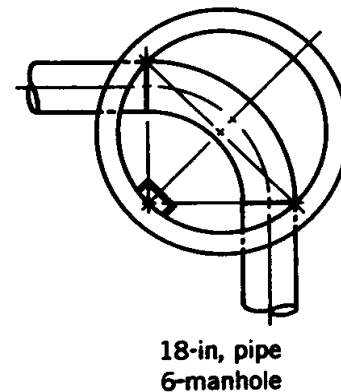
Figure 4. Sample manhole installations.



8-in. pipe
4-ft manhole



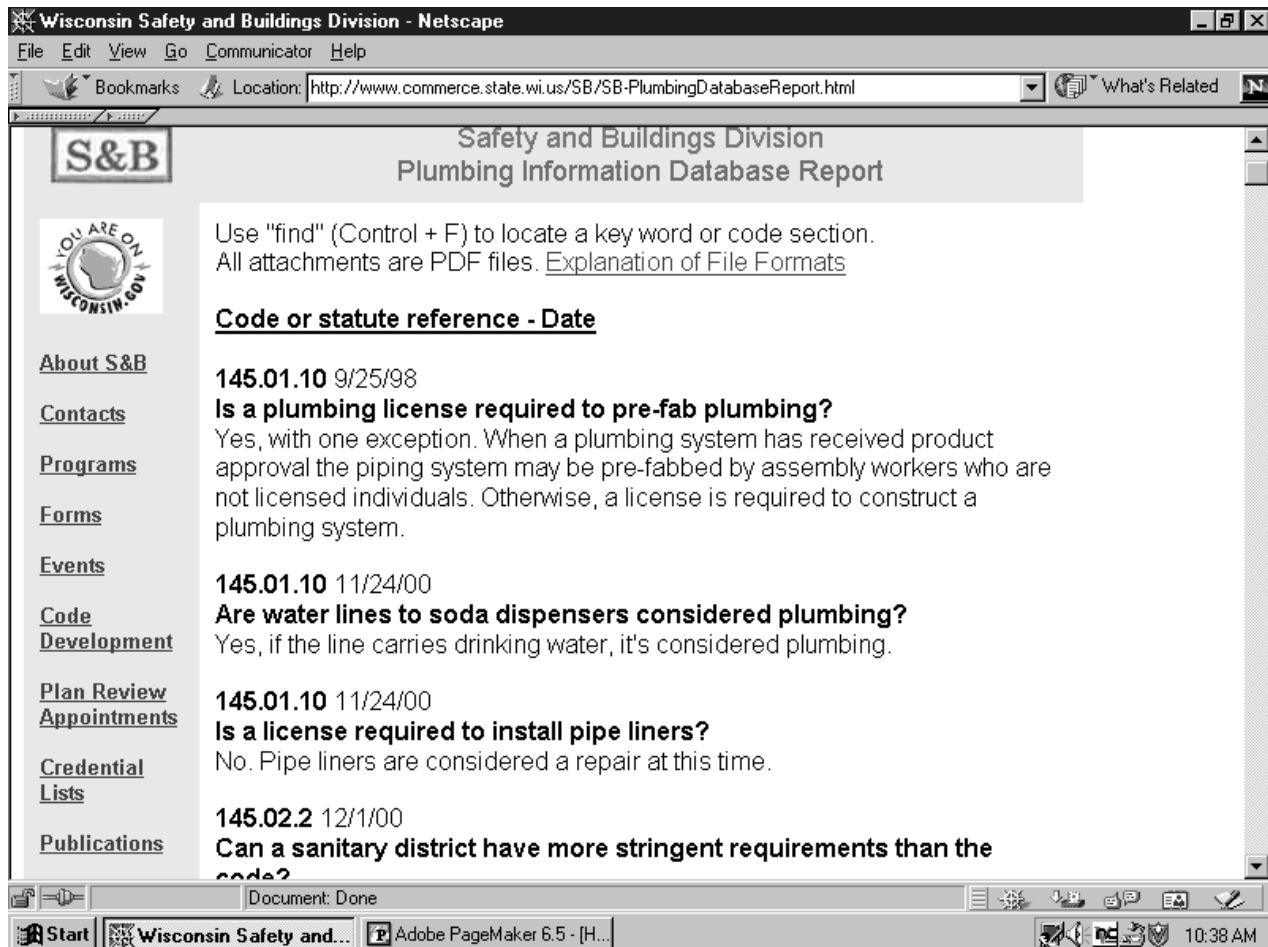
12-in. pipe
4-ft manhole



18-in. pipe
6-manhole

If you have questions about your continuing education status, contact the Safety and Buildings Division Credentialing Unit, 608-261-8500, madisoncred@commerce.state.wi.us.

Have you seen the online S&B plumbing database report?



“A *Plumbing Information Database Report* has arrived. It’s a compendium of information from a database S&B plumbing staff uses to share details on technical questions.”

(Also see page 1.)

<http://www.commerce.state.wi.us/SB/SB-PlumbingProgram.html>

Department of Commerce Safety and Buildings Division

Wastewater Specialists

Supervisor: Harold Stanlick, 262-521-5605, hstanlick@commerce.state.wi.us

DISTRICT 8

Carl Lippert
10541N Ranch Rd
Hayward, WI 54843
715-634-3484
FAX 715-634-5150
clippert@commerce.state.wi.us

DISTRICT 7

Matthew Janzen
2715 Post Rd
Stevens Point WI 54481
715-345-5336
FAX 715-345-5269
mjanzen@commerce.state.wi.us

DISTRICT 6

Leroy Jansky
13 E Spruce St.
Chippewa Falls, WI 54729
715-726-2544
FAX 715-726-2549
Ljansky@commerce.state.wi.us

DISTRICT 5

Dennis Sorenson
4003 North Kinney Coulee Rd.
La Crosse, WI 54650
608-785-9336
FAX 608-785-9330
dsorenson@commerce.state.wi.us

DISTRICT 2

Duane Steiner
1000 Log Lodge Ct
West Baraboo, WI 53913
608-355-3159
FAX 608-355-3144
dsteiner@commerce.state.wi.us

DISTRICT 4

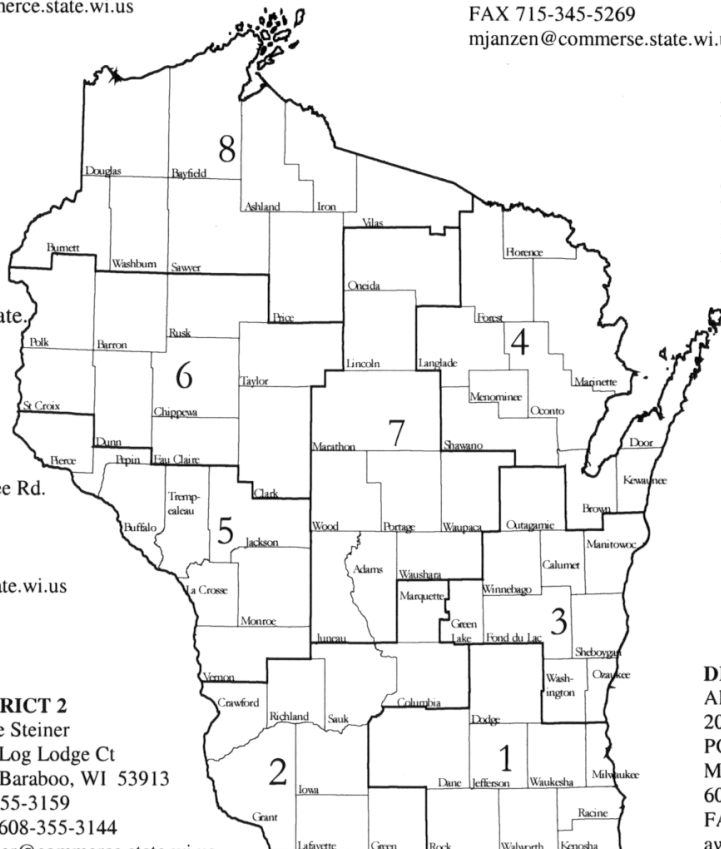
Ross Fugill
1340 E Green Bay St, Suite 300
Shawano, WI 54166
715-524-3629
FAX 715-524-3633
rfugill@commerce.state.wi.us

DISTRICT 3

Karl Schultz
UW-Oshkosh
Gruenhagen Ctr Rm 376
Oshkosh, WI 54901
920-424-3311
FAX 920-426-1008
kschultz@commerce.state.wi.us

DISTRICT 1

Allen Wendorf
201 W Washington
PO Box 7302
Madison, WI 53707-7302
608-873-5476
FAX 608-267-9723
awendorf@commerce.state.wi.us



POWTS program on the Internet: <http://www.commerce.state.wi.us/SB/SB-POWTSPProgram.html>

The Department of Commerce is an equal opportunity service provider and employer. If you need assistance to access services or need material in an alternate format, please contact the department at 608-266-3151 or TTY 608-264-8777.

SBD-10352-P (R02/01)

Questions reviewed -

Back-vented circuit and horizontal wet vent

by Don Hough, S&B Plumbing Consultant, Hayward, 715-634-4804. dhough@commerce.state.wi.us

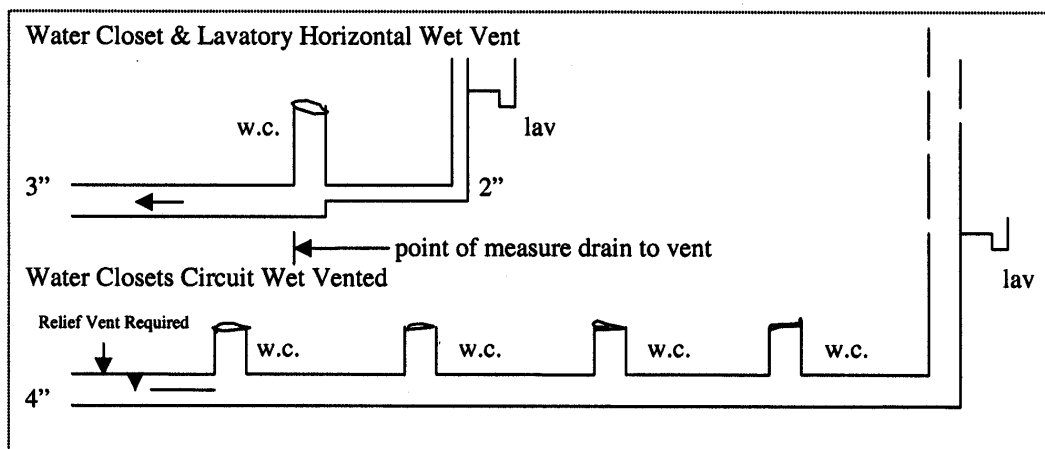
Comm 82.31(9)(a)2 says that each fixture trap that is an integral part of the fixture shall be protected with a vent located so that the developed length of the fixture drain piping from fixture outlet to the vent connection is within limits set forth in Table 82.31-1.

For a floor outlet water closet or similar fixture, the point where the fixture drain piping turns horizontal shall be considered the fixture outlet.

Comm 82.31(9)(b) says a vent shall not connect to a fixture drain within the distance equal to two diameters of the drain piping from the weir of a trap.

Are the drawings below in compliance with the referenced code language?

The heel inlet elbow fitting, installed to serve as the connection to wet vent a water closet, has been used in the past on plumbing installations that utilized the standard of that day in materials: cast iron hub, spigot pipe and fittings, and threaded iron pipe reducing inlets. If you spend time working out of a service truck, occasionally on one of your calls you will come across an old heel inlet fitting wet venting a water closet. A 4-inch cast iron service weight (or extra heavy) elbow with a 2-inch threaded heel inlet has two problems that mean service trouble. One is that there is no pitch on the galvanized horizontal portion of the wet vent, which makes its use non-



Look at the first drawing showing the water closet being wet vented by the lavatory. The drawing either shows a 90-degree bend with a heel outlet horizontal wet vent or this is a sanitary tee on its back with the inlet run connection reduced, receiving the discharge from a lavatory drain that wet vents the water closet.

The plumbing code strictly prohibits the use of a heel inlet bend when the heel inlet is in the horizontal position (Comm 82.30(9)(c)1).

The code does allow a sanitary tee on its back since the tee meets the same radius requirements as the first 90-degree bend downstream from a water closet (Comm 82.30(8)(a)2.3).

It may be good to address just why the heel inlet elbow is not used and prohibited from this use.

code compliant.

Secondly, over a period of time the flushing of the water closet leaves a hard crusty deposit at the base of the 4-inch elbow, just in front of the 2-inch inlet.

The heel inlet bend is “ill fitted” for this application, mainly because of maintenance. The horizontal portion of the wet vent would plug, causing drain stoppages in the lavatory drain and vent problems for the water closet.

It should be noted that the maintenance problem on this type of installation might not be so much of a concern with the use of PVC, ABS, and hubless cast iron waste and vent piping.

Someone will inevitably ask what the difference is

between a heel inlet elbow on its back and a sanitary tee with a reducer on the inlet run on its back.

The answer is very little, from a fitting standpoint, but a lot from a code and maintenance standpoint. The sanitary tee is allowed. The other is not.

Now let's take a look at several other code references that pertain to our sketches. Comm 82.31(9)(a)1 states that each fixture trap which is not an integral part of the fixture shall be protected with a vent located so that the developed length of the fixture drain piping from the trap weir to the vent connection is within the limits set forth in Table 82.31-1.

This code reference refers only to fixture traps which are not an integral part of the fixture.

The standard water closet used today has a integral fixture trap with the trap weir located at the point where the water in the closet bowl is at design level. Any further introduction of water into the bowl will drain by gravity through the fixture outlet.

Therefore, the trap weir of a water closet is not used as a determining point to establish the developed length fixture to vent. Comm 82.31(9)(a)2 is the code reference that establishes the point from where to measure the developed length of the fixture drain piping from the fixture outlet to the vent connection.

For practical purposes, a fixture trap that is an integral part of the fixture, such as a water closet, has a designated point where the fixture drain pipe turns horizontal. That point is considered the fixture outlet. There is no mention of trap weir in this code section, and we consider the point where the fixture drain piping turns horizontal as the fixture outlet, so as to create a point to measure developed length from the fixture drain to vent connection.

Because the water closet trap and trap weir are integral, we can conclude that Comm 82.31(9)(b), referring to the minimum distance of a vent connection, does not apply. The code states: "A vent shall not connect to a fixture drain within the distance equal to two diameters of the drain piping from the weir of a trap." This particular code reference applies to standard non-integral fixture traps, preventing the installation of "crown vents." Vents with close proximity to the upper bend of the

P-trap can interfere with the flow of water discharging through drain piping, becoming fouled and plugged through normal use.

The second drawing appears to be circuit wet vented water closets.

The circuit vent has been used extensively over the years as an effective vent that uses "back" venting design. Again, the 4-inch sanitary tee on its back would comply with the intent of the code (Comm 82.30(8)(a)1 and 2), meeting the minimum radius for the first 90-degree change of direction downstream from a water closet. Also, the tee is not listed as a prohibited fitting in Comm 82.30(9)(c).

The heel inlet elbow installed in the horizontal position is not permitted.

A horizontal wet vent cannot serve four water closets. Comm 82.31(13)(b) is where we find the horizontal wet vent limitations that prevent such a vent from serving more than two water closets.

This second drawing shows a typical public water closet layout. The only other requirement for such an installation would be a relief vent located downstream of the most downstream water closet and upstream of any other drain connections, according to Comm 82.31(10)(b).

There are advantages to both venting installations. Horizontal wet vent requirements allow the reduction of the diameter of the drain piping between the circuit vent connection and relief vent connection, while the installation of a circuit vent requires the drain to be full-sized to the circuit vent connection. (Drain and Vent System Design, revised 2/99, p. 46).

Questions about your continuing education credits?

Check the mailing address back page for a printed line giving your status for plumbing-related S&B credentials. Or, call the Credentialing Unit, 608-261-8500. Or, check the S&B WebSite, <http://www.commerce.state.wi.us/SB/SB-HomePage.html>, choose "Credentials."

WPCR - September 2001
Safety and Buildings Division
201 W Washington Ave
PO Box 2509
Madison WI 53701

ADDRESS SERVICE REQUESTED

Prst Std
U.S. Postage
PAID
Permit No.
880
Madison WI